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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,162	12/11/2003	Hawley K. Rising III	80398.P534C	1651

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EXAMINER

PARDO, THUY N

ART UNIT	PAPER NUMBER
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2165

DATE MAILED: 09/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/735,162

Applicant(s)

RISING, HAWLEY K.

Examiner

Thuy N. Pardo

Art Unit

2165

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-23,25-40,42-51,53-68,70-79,81-96,98-107,109-124 and 126-132 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 21,31,40, 49,59,68,77,87,96,105,115 and 124 is/are rejected.
7) ☒ Claim(s) See Continuation Sheet is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's Amendment filed on June 13, 2006 in response to Examiner's Office Action has been reviewed. Claims 21, 40, 49, 68, 77, 96, 105 and 124 have been amended, and claims 1-20, 24, 41, 52, 69, 80, 97, 108 and 125 have been canceled.

2. Claims 21-23, 25-40, 42-51, 53-68, 70-79, 81-96, 98-107, 109-124 and 126-132 are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 21, 31, 40, 49, 59, 68, 77, 87, 96, 105, 115 and 124 are rejected under 35 U.S.C. 103(a) as being unpatentable Becker US Patent No. 6,301,579, in view of Agrawal et al. (Hereinafter "Agrawal") US Patent No. 6,233,575.

As to claim 21, Becker teaches the invention substantially as claimed, comprising:
creating a root node [1102 of fig. 11A] comprising coordinates in the MDS space for a first subset of the set of points [col. 3, lines 50-60] the root node further comprising boundary

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information in the MDS space for local MDS spaces defined by further subsets of the set of points [col. 7, lines 38 to col. 8, lines 29]; and

creating a plurality of leaf nodes [1114, 1116, 1118 of fig. 11A], each leaf node [B of fig. 12] comprising coordinates in a local MDS space for the points in one of the further subsets [Cs of fig. 12].

However, Becker does not explicitly teach the MDS space defined by running MDS on the first subset of points. Agrawal teaches the MDS space defined by running MDS on the first subset of points [“Business and Economy”, “Recreation”, and “Science” have been defined as different topics in the first subsets of points, fig. 2; col. 9, lines 50 to col. 10, lines 22].

It would have been obvious to one of ordinary skill in the Data Processing art at the time of the invention to add this feature of Agrawal to the system of Becker as an essential means to provide efficient reorganization of a database into a topic hierarchy for user’s information need.

As to claim 40, Becker and Agrawal teach the invention substantially as claimed, comprising identifying a node for a new point corresponding to a new object based on attribute proximities between the new object and existing objects [col. 17, lines 59 to col. 18, lines 62; col. 20, lines 48-64]. Agrawal further teaches adding the new point into the subset associated with the identified node and redefining the local MDS space for the identified node [addition of documents to a given topics and the text models built at each node using few descriptive keywords as the signatures, col. 5, lines 20-25; col. 11, lines 64 to col. 12, lines 10; col. 22, lines 17 to col. 23, lines 9].

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As to claims 31, 49, 59, 68, 77, 87, 96, 105, 115 and 124, all limitations of these claims have been addressed in the analysis above, and these claims are rejected on that basis.

Allowable Subject Matter

4. Claims 22, 23, 25-30, 32-39, 42-48, 50, 51, 53-58, 60-67, 70-76, 78, 79, 81-86, 88-95, 98-104, 106, 107, 109-114, 116-123 and 126-132 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

As to claims 22, 50, 78 and 106, the feature of selecting the first subset of points based on the distances between pairs of points, taken together with other limitations of claims 21, 49, 77 and 105 was not disclosed by the prior art of record.

As to claims 25, 53, 81 and 109, the feature that creating a plurality of leaf nodes comprises iteratively grouping the points remaining after selecting the first subset into the further subsets based on coordinates in the MDS space of the remaining points, taken together with other limitations of claims 21, 49, 77 and 105 was not disclosed by the prior art of record.

As to claims 29, 57, 85 and 113, the feature that each node further comprises a map relating distances between pairs of points in the associated MDS space with the attribute proximities between the corresponding objects, taken together with other limitations of claims 21, 49, 77 and 105 was not disclosed by the prior art of record.

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As to claims 30, 58, 86 and 114, the feature that the leaf nodes further comprise coordinates for any overlapping portions of the associated local MDS spaces, taken together with other limitations of claims 21, 49, 77 and 105 was not disclosed by the prior art of record.

As to claims 32, 41, 60, 69, 88, 97, 116 and 125, the feature of adding the new point into the subset associated with the identified node and redefining the local MDS space for the identified node, taken together with other limitations of claims 21 and 31, 49 and 59, 77 and 87, 105 and 115, 40, 68, 96 or 124 was not disclosed by the prior art of record.

As to claims 38, 47, 66, 75, 94, 103, 122 and 131, the feature of determining points in the subset associated with the identified node that are within a pre-determined distance of the new point, taken together with other limitations of claims 21 and 31, 49 and 59, 77 and 87, 105 and 115, 40, 68, 96 or 124 was not disclosed by the prior art of record.

Claims 23, 26-28, 33-37, 39, 42-46, 48, 51, 54-56, 61-65, 67, 70-74, 76, 83-85, 89-93, 95, 98-102, 104, 107, 110-112, 117-121, 123, 126-130 and 132 being further limiting to claims 21 and 31, 49 and 59, 77 and 87, 105 and 115, 40, 68, 96 or 124 are also objected to.

Response to Arguments

5. Applicant's arguments filed on June 30, 2006 have been fully considered but they are not persuasive.

Applicant argues that Agrawal does not qualify as a prior art under 35 U.S.C. 103(a). As to this point, Examiner respectfully disagrees. Examiner believes that since Agrawal qualifies as a prior art under 35 U.S.C. 102(e), Agrawal also qualifies as a prior art under 35 U.S.C. 103(a) as well.

Applicant argues that neither Becker nor Agrawal teaches an MDS space as claimed by Applicant.

Examiner respectfully disagrees. MultiDimensional Scaling (MDS) is a well-known technique for representing various types of data a spatial arrangement that is based on similarity or dissimilarity data [see on page 1 specification]. Becker teaches creating a multi-dimensional data structure in which the data structure comprises one or more levels arranged in a hierarchal manner (a root node and a plurality of leaf nodes) as the same as the function of what Applicant claims. Agrawal teaches the MDS space defined by running MDS on the first subset of points [“Business and Economy”, “Recreation”, and “Science” have been defined as different topics in the first subsets of points, fig. 2; col. 9, lines 50 to col. 10, lines 22].

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

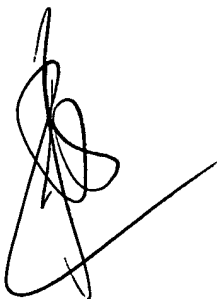
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy Pardo whose telephone number is 571-272-4082. The examiner can normally be reached on Mon-Thur.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on 571-272-4146. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

September 08, 2006



THUY N. PARDO
PRIMARY EXAMINER

Continuation Sheet (PTOL-326)

Continuation of Disposition of Claims: Claims objected to are 22,23,25-30,32-39,42-48,50,51,53-58,60-67,70-76,78,79,81-86,88-95,98-104,106,107,109-114,116-123 and 126-132.